CLAIMS

1.   An interference signal canceling apparatus, comprising:

5   likelihood calculating means for calculating likelihoods of respective symbols included in an input signal;

threshold value judging means for judging a threshold value by comparing a calculated likelihood with
10   an appointed threshold value in terms of size;

rank deciding means for deciding the rank of symbols, in which said likelihood is said threshold value or more, on the basis of said likelihood;

demodulating means for demodulating said symbols
15   on the basis of the decided rank; and

removing means for removing the demodulated symbols from said input signal and making the same into a new input signal.

2.   The interference signal canceling apparatus as set
20   forth in Claim 1, further comprising threshold value controlling means for controlling threshold values, wherein said threshold value judging means judges a threshold value using the threshold values that are controlled by said threshold value controlling means.

25   3.   The interference signal canceling apparatus as set forth in Claim 2, wherein said threshold value controlling means controls threshold values on the basis of the numbers

of likelihoods that are judged to be the threshold value or more.

4.   The interference signal canceling apparatus as set forth in Claim 1, further comprising threshold value deciding means for deciding a threshold value on the basis of the threshold values used in the past, wherein said threshold value judging means carries out a first-time judgement of threshold values, using the threshold value that is decided by said threshold value deciding means.

5.   A base station having an interference signal canceling apparatus, wherein said interference signal canceling apparatus comprises likelihood calculating means for calculating likelihoods of respective symbols included in an input signal; threshold value judging means for judging a threshold value by comparing a calculated likelihood with an appointed threshold value in terms of size; rank deciding means for deciding the rank of symbols, in which said likelihood is said threshold value or more, on the basis of said likelihood; demodulating means for demodulating said symbols on the basis of the decided rank; and removing means for removing the demodulated symbols from said input signal and making the same into a new input signal.

6.   A method for canceling an interference signal, comprising the steps of:

        calculating likelihoods of respective symbols included in input signals;

selecting symbols in which said calculated likelihood is a threshold value or more;

deciding a rank of said selected symbols in the order that said likelihood is higher;

5   demodulating said symbols on the basis of said decided rank; and

removing said demodulated symbols from said input signal, and making the same into a new input signal.